CLAIMS:

1. A method for fabrication of in-laid metal structures, comprising the steps of :

- providing a substrate with a dielectric material on top thereof,
- depositing a protection layer on top of the dielectric material,
- depositing a sacrificial layer on top of the protection layer, the sacrificial layer having a mechanical strength which is lower than the mechanical strength of the protection layer,
- making an opening through the sacrificial layer, through the protection layer and into the dielectric material,
- depositing a barrier layer in the opening and on the sacrificial layer
- depositing metal material on the barrier layer, the metal material filling the opening,
- removing portions of the metal material existing beyond the opening by means of polishing, and
- removing the barrier layer and the sacrificial layer in one polishing step.

2. A method according to claim 1, wherein the portions of the metal material existing beyond the opening, the barrier layer and the sacrificial layer are removed in one polishing step.

3. A method according to claim 1, wherein the one polishing step makes use of one consumable set.

4. A method according to claim 1, wherein the polishing step is a step of chemical mechanical polishing (CMP).

5. A method according to claim 1, wherein the adhesion between the sacrificial layer and the protection layer is weaker than the adhesion between the protection layer and the dielectric material.

6. A method according to claim 1, wherein the sacrificial layer is a low-k material.

7. A method according to claim 1, wherein the dielectric material comprises a low-k material.

8. A method according to claim 1, wherein the step of depositing metal material comprises depositing copper, aluminium, silver, gold, or tungsten.

9. A method according to claim 1, wherein the step of depositing metal material comprises depositing metal material by chemical vapor deposition.

10. A method for manufacturing a semiconductor device using a method for fabrication of in-laid metal structures according to claim 1.